42-inch 3D-Intelligent Display

42-3D6C01/00
42-3D6W01/00
42-3D6C02/00
42-3D6W02/00

User Manual

Philips 3D Solutions

Warning this is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Safety Instructions for 3D display

Read and follow these instructions:

1. This product must be earthed.
2. The mains plug or appliance inlet is used as the disconnect device and should be easily accessible.
3. Use only an approved power cord or interconnection cable.
4. Unplug the product if you are not going to use it for a long period of time.
5. Unplug the product if you need to clean it, use a slightly damp cloth. Never use alcohol, solvents or ammonia-based liquids.
6. Refer all servicing to qualified service personnel
7. Do not block any ventilation holes.
8. To avoid electric shock, do not expose to rain or excessive moisture.
9. Do not store or use the product in locations exposed to excessive heat, direct sunlight, extreme cold or in dusty environments.
10. Avoid moving the product between locations with large temperature differences.
11. Choose a location within the following temperature and humidity ranges.
    - Temperature: 0- 35°C
    - Humidity : 20-80% RH
12. Avoid hitting or dropping during operation and transportation.

Mounting

The display can be placed on a table stand or wall-mounted. The table stand is supplied as standard; the mounting bracket can be purchased separately. This bracket can also be used as an adapter in combination with universal wall supports, ceiling supports or universal floor stands (e.g. Vogel's Professional).

Fitting the table stand

Only use the stand supplied with the set, making sure that the fasteners are properly tightened. Never use a makeshift stand, or legs fixed using wood screws.

Using the mounting bracket

The standard VESA mount holes on the mounting bracket allow the user to install the Philips 3D display on any VESA MIS-E compatible wall support, ceiling support or floor stand.

Important: Use a VESA MIS-E compatible support suitable for the weight of this 3D Display.

Always secure the mounting bracket to the display using 4 screws. This helps avoid potentially dangerous situations when lifting the display out of the mounting bracket.

Positioning the display

For the best results, choose a place where there is no direct light shining onto the screen, and which is some distance away from radiators or other sources of heat. Leave a space of at least 10 cm all around the display for ventilation, making sure that curtains, cupboards etc. cannot obstruct the airflow through the ventilation apertures. The display is intended for use in a public places only and should never be operated or stored in excessively hot or humid conditions.

Avertissement – Ce produit est un produit de classe A. Dans un environnement domestique, ce produit peut causer un brouillage radioélectrique. L'utilisateur pourrait avoir à prendre des mesures appropriées à cet égard.

Instructions de sécurité pour l'écran 3D

Prière de lire et respecter les instructions suivantes :

1. Cet appareil doit être connecté à la terre.
2. La fiche secteur ou la prise d'entrée de l'appareil est utilisée comme dispositif de débranchement et doit être facilement accessible.
3. Utilisez uniquement un cordon d'alimentation ou un câble d'interconnexion approuvé.
4. Déconnectez l'appareil si vous ne l'utilisez pas pendant une période prolongée.
5. Déconnectez l'appareil pour le nettoyer ; utilisez un chiffon légèrement humidifié. Ne jamais utiliser de l'alcool, des solvants ou des produits à base d'ammoniac.
6. Confiez les opérations d'entretien au personnel d'entretien qualifié.
7. Ne pas bloquer les orifices d'aération.
8. Afin d'éviter tout choc électrique, ne pas exposer l'appareil à la pluie, ni à un taux d'humidité excessif.
9. Ne pas entreposer ni utiliser l'appareil dans des lieux poussiéreux ou exposés à une chaleur excessive, aux rayons du soleil ou à des températures excessivement basses.
10. Évitez de transporter l'appareil entre deux endroits entre lesquels il y a une grande différence de température.
11. Veillez à ce que le lieu d'entreposage ou d'utilisation ait les caractéristiques de température et de taux d'humidité suivantes :
    - Température: 0-35°C
    - Humidité relative : 20-80%
12. Évitez les chocs ou la chute de l'appareil pendant son utilisation ou pendant le transport.

Montage

L’écran peut être placé sur un support de table ou monté au mur. Le support de table est fourni avec l’appareil et le support de montage au mur est vendu séparément. Ce support peut également servir d’adaptateur combiné à un support de plafond ou encore à un support mural ou de plancher de type universel (par ex., modèle Vogel Professional).

Installation du support de table

N’utilisez que le support fourni avec l’ensemble en vous assurant de bien serrer les dispositifs d'attache. N’utilisez jamais de support improvisé ni de pattes fixées à l'aide de vis à bois.

Utilisation du support de montage

Les trous de montage VESA standards sur le support de montage permettent à l’utilisateur d’installer l’écran Philips 3D sur tout support conforme à la norme VESA MIS-E, qu’il soit de type mural, de plafond ou de plancher.

Important : Utilisez un support conforme à la norme VESA MIS-E qui convient au poids de cet écran 3D.

Assurez-vous de fixer le support de montage à l’écran au moyen de 4 vis. Vous éviterez ainsi toute situation dangereuse en soulevant l'écran hors du support de montage.

Positionnement de l’écran

Pour obtenir de meilleurs résultats, choisissez un endroit éloigné des appareils de chauffage et autres appareils dégageant de la chaleur et où aucune lumière directe n’est réfléchie sur l’écran. Laissez un espace d’au moins 10 cm tout autour de l’écran pour permettre une aération adéquate, en vous assurant que les rideaux, armoires et autres n’empêchent pas l’air de circuler par les grilles d’aération. L’écran a été conçu pour fonctionner dans des environnements publics et ne devrait jamais être utilisé ou rangé dans un endroit extrêmement chaud ou humide.

Document Information

Info	Content
Title	42 inch 3D Display, User Manual (9922 159 01 73 1 090401)
Date	01 April 2009
Security	The material and the information contained herein are proprietary to Philips 3D Solutions. Copying, reproduction, adaptation, modification or dissemination in whole or part is not permitted without the prior written consent of Philips 3D Solutions.
Contact	http://www.philips.com/3dsolutions

Table of Contents

1 Introduction 8
2 Product features 9
2.1 Global product features 9
2.2 Technical aspects and details 10
2.3 Cosmetic specifications 11
3 Scope of supply, Set up and mounting 14
3.1 Scope of Supply 14
3.2 Image retention 14
3.3 Connecting the display 15
3.4 Cleaning instructions 16
3.5 Disposal of your old product 17
4 Software installation 18
4.1 Minimum PC requirements 18
4.2 Prepare PC 18
5 Environmental 19
6 Interfaces 20
6.1 DVI-in 20
6.2 LED 20
7 Trademarks, Copyrights and disclaimer 21
8 Mounting bracket 22
9 References 25

©2009 Philips Electronics Nederland B.V.

1 Introduction

The 42-inch 3D display from Philips 3D Solutions offers state-of-the-art lenticular lens design creating a variety of distinct autostereoscopic views. By this the viewer will benefit from the multi-user experience along with a large comfort zone. The 42-inch 3D display is specifically designed for a wide range of applications such as digital signage and information provision.

The display is featuring superior lens design and 3D rendering relying on proven, highly optimized and accurate manufacturing processes. The lens design minimizes cross talk, creating highly distinct views. The 42-3D6C01/00 and 42-3D6C02/00 are designed for optimal viewing comfort. The 42-3D6W01/00 and 42-3D6W02/00 are designed for maximum WOW viewing experience.

The display's 2D-plus-depth rendering interface is open, allowing maximum flexibility. No matter what sort of Philips 3D Solutions display is used, the content does not need regeneration. What's more, the rendering hardware sits inside the display, allowing for maximum optimisation of the optical system by embedded processing.

Provided with the 42-inch 3D display are the 3DS Media Player and the Display Control Tool. The Display Control Tool can be used to set all kinds of visualisation parameters for the 3D display; examples are the WOW offset, the WOW range, the contrast, and the brightness. The 3DS Media Player is used for play-out for the Philips 3D Solutions 3D displays. It takes care that the display switches to 3D mode with the appropriate 3D visualization settings.

A digital version of the 3D Display User Manual can be downloaded from our website: www.philips.com/3dsolutions.

©2009 Philips Electronics Nederland B.V.

2 Product features

2.1 Global product features

Multi-view Lenticular Display

- 9 view autostereoscopic 3D display
- Non-switchable lenticular technology
- Optimal viewing distance: 3 meters (10 feet).
- Wide comfort zone for 3D perception
- Full brightness, full contrast
- 2D-plus-Depth or Declipse input in 3D mode [1]
- Protective plate at the front side of the display

Advanced display signal processing engine

- Integrated 3D display processing hardware
- Open 3D data interface
- 2D-plus-Depth converted to 9 different views and interwoven into a 3D image
- Rendering algorithm is tuned for lenticular optical behaviour
- Two modes:
  - 3D rendering mode
  - 2D transparent mode with picture quality improvement filter

Connectivity

- Display control via DDC/CI channel; no additional RS232 cable needed
- AC switch
- A LED indicates ‘power on’ and ‘standby’ mode

[1] For an elaborate explanation on the display interface formats see the ‘3D Interface Specifications - white paper’ document. It can be downloaded from the Documents section on http://www.philips.com/3dsolutions.

©2009 Philips Electronics Nederland B.V.

2.2 Technical aspects and details

Group	Item	42-3D #
LCD panel	Type	TFT LCD
	Resolution	1920 x RGB x 1080
	Pixel pitch	0.4845 mm x 0.4845 mm
	Effective viewing area	930.24 mm x 523.26 mm
	Size	42''
	Contrast Ratio	1500:1
	Aspect Ratio	16:9
	Brightness	500 cd/m^2
	Response time	8 ms (gray-to-gray)
	Refresh rate	60 fps
	Display colors	16.7 M (8 bits RGB)
	White chromaticity	Wx: 0.280 Wy: 0.285 (at 10500 K)
Physical	Weight (including table stand)	42-3D6C #: 32 kg 42-3D6W #: 35 kg
	Dimensions (WxHxD)	1017 x 610 x 128 mm
	Package dimensions (WxHxD)	1176 x 791 x 318 mm
	Installation	Table stand (included) wall, or ceiling mounting bracket or free-standing (optional)
	Power Consumption	230 W
	Power Consumption standby	2.5 W
	Operating temperature	0 - 35 °C
	Relative humidity	20 % to 80 %
	System MTBF	50K hrs
	Installation angle	0 - 10° from vertical
Interface	Connector	DVI-D single link
	Voltage	110 – 230 V, 50 – 60 Hz

©2009 Philips Electronics Nederland B.V.

2.3 Cosmetic specifications

2.3.1 Description

This specification standard is applicable to:
3D-displays supplied by Philips 3D Solutions.

2.3.2 Environmental conditions of inspection

The environmental conditions and visual inspection shall be conducted as below.
Ambient temperature in the range 15-25 [°C].
Humidity in the range 25-75 [%RH].
The functional inspection distance of the monitor (measured between the monitor and the inspector's sight) should be at least 3.0 [m].
The maximal viewing angle relative from the normal direction of the module/monitor is specified according to ±Y degree to the front surface of the display in vertical direction, and ±X degree to the front surface of the display in horizontal direction. The values below are the following: X = 15, Y = 45.
Ambient illumination:

- External appearance inspection in the range 400-600 [Lux].

Light on inspection in the range 100-200 [Lux].

2.3.3 Classification of defects

The defects are classified as major and minor defects. The definition of defects is described as follows:
Major defect:
The defect may cause functional failure, or reduce the usability of the product for its purpose. For example: electrical failure, deformation, etc.
Minor defect:
The defect does not reduce the usability of the product for its purpose. For example: dot defect, etc.

The judgement of the major and minor defects shall be according to the table with classification of defects below.

Inspection item	Description	Defect type
Vertical line	Abnormal line appears in vertical direction.	Major
Horizontal line	Abnormal line appears in horizontal direction.	Major
Cross line	Abnormal cross line appears in display.	Major
No display	No signal output in display.	Major
Irregular display	Abnormal signal outputs in display.	Major
Dot defect	Bright dot, dark dot or dot adjacent appear in display.	Minor

©2009 Philips Electronics Nederland B.V.

Foreign material	Foreign material appears in display	Minor

2.3.4 Inspection Criteria

Definition of dot defect:
If the size of a dot defect is larger than 0.5 times a single pixel, it can be regarded as one dot defect
Bright dot:Dot appears bright and the size is fixed in a black pattern.
Dark dot: Dot appears dark and the size is fixed in pure red, green and blue pattern.

2.3.4.1 Display defects

The size of a circular area is defined by the average of the size along the horizontal axis (=a) and the vertical axis (=b), i.e. D=(a+b)/2. The size of a lint/scratch is defined by its with (=W) and its length (=L).

Item 3D-display		Maximum tolerance
Bright dot	Random	N ≤ 3
	2 dots adjacent	N ≤ 1
	3 dots adjacent or more	N ≤ 0
Dark dot	Random	N ≤ 12
	2 dots adjacent	N ≤ 2
	3 dots adjacent or more	N ≤ 1
	Minimum distance between dark dots	L ≥ 15 [mm]
Total bright and dark dots		N ≤ 12
Backlight	Break down	Not permitted
Connector	Oxidized/rusty connector not acceptable	

Item protective plate	Maximum tolerance
Protective plate scratches	0.15 < W ≤ 0.25 [mm], 0.3 < L ≤ 10.0 [mm], N ≤ 7

Item 3D-display		Maximum tolerance
LED function	See paragraph 7.2	Failure not acceptable
Cosmetic profiles	Scratches	0.05 < W ≤ 0.15 [mm], 0.3 < L ≤ 2.0 [mm], N ≤ 7
	Sharp edges	Not allowable.
Outside and connectors	Cracks and Rust	Not acceptable under any circumstances.

Disclaimer will be printed on bag sticker and included in this manual

- Please be aware that the protective plate in front of this display is sensitive for scratching during cleaning. This is caused by hard particles (like sand) that might be present in the cloth used and/or the cleaning fluid.
- Small backlight intensity variations can occur in dark backgrounds

©2009 Philips Electronics Nederland B.V.

- Discoloration of the active area circumference can occur and should be treated as normal and will not change the functional performance of the 3D intelligent display.
- Philips 3D Solutions is not responsible for a poor performance due to a not optimal signal input according to display timing recommendation below

Advanced Timing				
Horizontal pixels				
	Front porch	15 2	Sync width	48
	Back porch	48	Scan rate	67.02 kHz
	Sync polarity	+	Active lines	1920
Vertical lines				
	Front porch	5	Sync width	5
	Back porch	26	Refresh rate	60.054 Hz
	Sync polarity	+	Active pixels	1080
			Pixel clock	145.30 MHz

Signals must comply with the following DVI standard:Digital Visual Interface DVI Digital Display Working Group Revision 1.0; April 02, 1999

©2009 Philips Electronics Nederland B.V.

3 Scope of supply, Set up and mounting

3.1 Scope of Supply

The contents of the box:

- Display 42-3D #
- Table stand
- 3 Mains cords (USA, EU and UK)
- DVI cable
- CD ROM with:
  - Display Control Tool
  - 3DS Media Player
  - User manuals
  - 3D Sample content
- Printed version of the Display user manual (this manual)
- Cardboard box with cushions

The following items can be purchased separately:

- Mounting bracket (Article code: 42-WM)

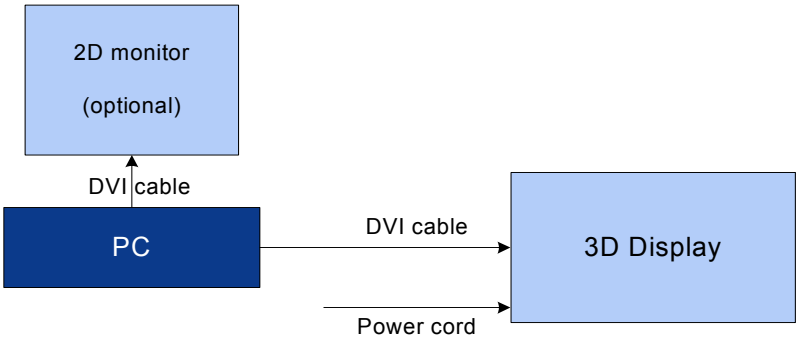
3.2 Image retention

IMPORTANT: Always display alternating content with your application. If a still image in high contrast remains on the screen for an extended period of time, it may leave an 'after-image' or 'ghost image' on the front of the screen. This is a well-known phenomenon, caused by the shortcomings inherent in the LCD technology. Please note that the after-image symptom cannot be repaired and is not covered under warranty.

©2009 Philips Electronics Nederland B.V.

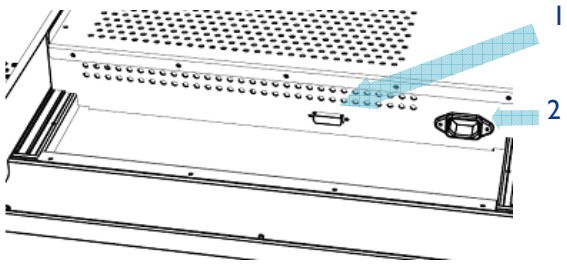
3.3 Connecting the display

NEVER (dis)connect DVI when your PC or Display is on.



A second 2D display may be connected to the PC. Only use a DVI cable and graphics card that is compliant with the DVI standard (see reference to DVI standard in section 9).

The picture below show the DVI-connector and power connector on the back of the display



Make sure the PC and Display are switched off!
1. Connect the PC via the DVI cable to the DVI connecter.
2. Connect the power cord.

©2009 Philips Electronics Nederland B.V.

3.4 Cleaning instructions

Before cleaning the display, disconnect the power cord and DVI cable.

It is preferable to clean the front of the display with the cleaning products listed in the table below.

To clean we recommend:

cleaning materials	e.g. soft cotton cloth window leather
Aqueous solution, neutral and weakly alkaline window cleaner without additives of abrasive substances: Permitted portion of ammonia < 5 Vol-%, as well as water soluble organic solvents < 5 Vol-%.	e.g. Flux Ajax

Do not use for cleaning:

alkaline lyes	e.g. durd soap, certain textile detergents
lyes	e.g. toilet cleaner
acids	e.g. hydrochloric acid, vinegar, lemon
decalcification agent	e.g. citric acid
degreasing agent	e.g. acetone, methylene chloride, trichloroethylene, petrol
Strong ammonia detergents	e.g. Toilet cleaner
chlorine or Hypochloride detergents	e.g. Chavel water, Domestos
solvents	e.g. Ethyl alcohol, Isopropyl alcohol, alcohol, acetone, trichloroethylene, benzene, hexane, petrol
coarse millinery	e.g. abrasive, steel wool, sponge with abrasives, blades cloth with thread made of steel, hard cloth or paper tissue
Other	Electrolube ASC, REF ASC250ml

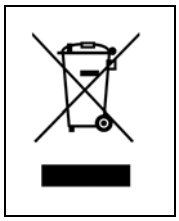
As an alternative, clean the front of the display with a solution of soft soap (e.g. liquid hand soap) and tepid water, using a soft cloth or sponge.

The rest of the display can be cleaned with a dry cloth.

©2009 Philips Electronics Nederland B.V.

3.5 Disposal of your old product

Your product is designed and manufactured with high quality materials and components, which can be recycled and reused.



When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC

Please inform yourself about the local separate collection system for electrical and electronic products.

Please act according to your local rules and do not dispose of your old products with normal household waste. The correct disposal of your old product will help prevent potential negative consequences for the environment and human health.

©2009 Philips Electronics Nederland B.V.

4 Software installation

This chapter contains the prerequisites for the PC hardware and the operating system for the software. First, check whether your PC complies with the requirements that are given in the next sections. Then follow the installation instructions, where you will be guided step by step through the software installation procedure.

4.1 Minimum PC requirements

The PC must comply with the following requirements:

- Pentium 4, ≥ 3 GHz or Dual core ≥ 1.7 GHz
- ≥ 512 MB internal memory for Windows XP, ≥ 1024 MB internal memory for Windows Vista
- 7200 rpm hard disk with 8 Mbyte cache (minimal sustained throughput 10 MB/s)
- DVD ROM player
- Graphics card:
  - based on NVIDIA for example 7600 or 8600 chipsets,
  - or based on NVIDIA Quadro for example FX1400 (windows XP only),
  - or based on ATI for example X1650 (Windows XP only).
- Windows XP SP2 or Windows Vista (see above for restrictions concerning graphics cards)

4.2 Prepare PC

Make sure that the following software is installed on the PC before connecting the 3D Display to the PC:

- Windows XP (upgraded to Service Pack 2) or Windows Vista
- NVIDIA Display driver or ATI Driver (Windows XP only)

©2009 Philips Electronics Nederland B.V.

5 Environmental

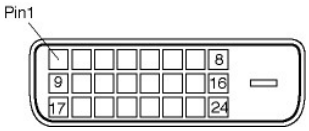
Condition	Operating	Shipping / storage
Temperature	0 °C to 35 °C	-20 °C to 60 °C
Humidity	20 % - 80 % No condensation	0% - 95 % No condensation
Air pressure	600 – 1100 mBar	300 – 1100 mBar

The display is only used indoor.

©2009 Philips Electronics Nederland B.V.

6 Interfaces

6.1 DVI-in



Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S.Data0/5 Shield
4	No connect	12	No connect	20	No connect
5	No connect	13	No connect	21	No connect
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock+
8	No connect	16	Hot Plug Detect	24	T.M.D.S. Clock-

The DDC Clock and the DDC data are used by the Display Control Tool to control depth and colour settings in the display.

6.2 LED

LED Color	Status
Red	Display is in standby mode. No DVI clock is present.
Green	Display on

©2009 Philips Electronics Nederland B.V.

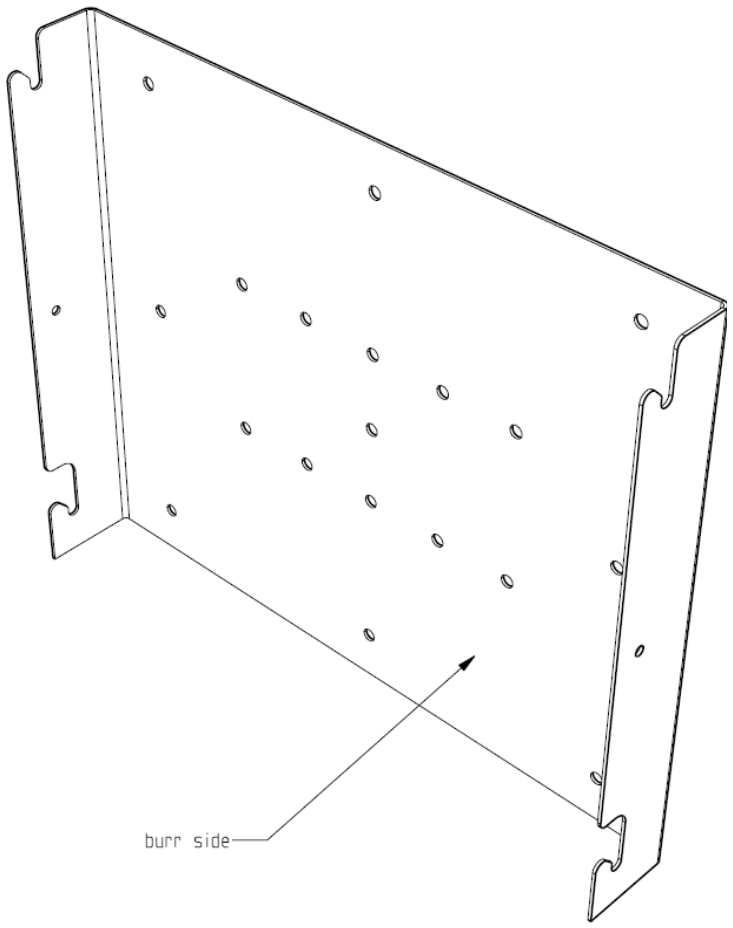
7 Trademarks, Copyrights and disclaimer

Specifications are subject to change without notice.
Trademarks are the property of Koninklijke Philips Electronics N.V. or their respective owners.
2009© Koninklijke Philips Electronics N.V. All rights reserved.

8 Mounting bracket

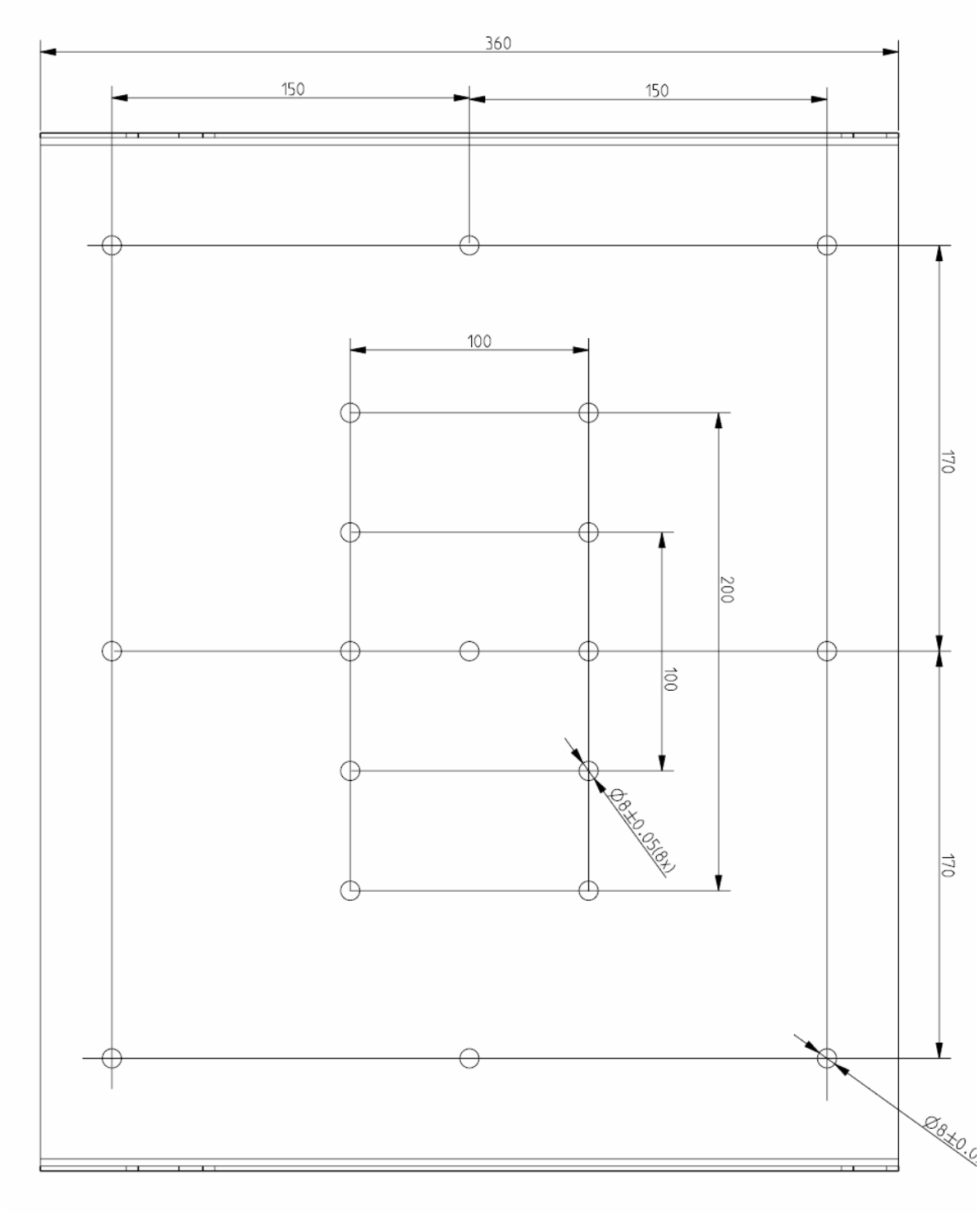
The mounting bracket is not supplied as standard with the 3D Display. It must be purchased separately with article code: 42-WM.

Installation instructions are supplied with the mounting bracket. Please read these carefully and act accordingly. This chapter contains the dimensions of the mounting bracket.



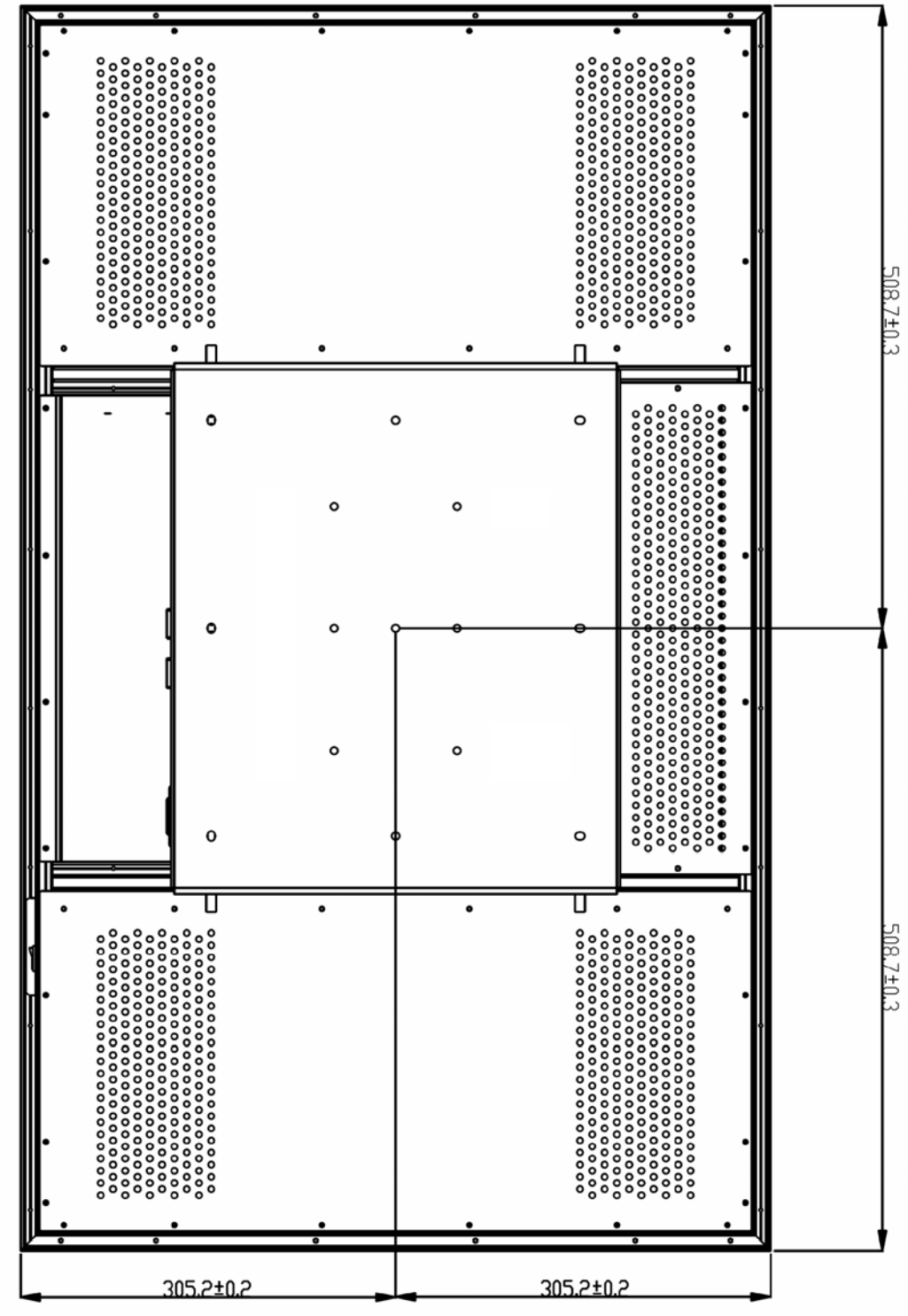
©2009 Philips Electronics Nederland B.V.

Hole pattern on mounting bracket:



©2009 Philips Electronics Nederland B.V.

Location of mounting bracket relative to display (rear view).



©2009 Philips Electronics Nederland B.V.

9 References

The following references are not normative but informative.

	Description
	VESA Display data channel standard; Version 3; December 15, 1997
	VESA Display data channel command interface (DDC/CI) standard; Version 1; August 14, 1998
	Digital Visual Interface DVI; Digital Display Working Group; Revision 1.0; April 02, 1999
	VESA enhanced extended display identification data standard; Release A, Revision 1; February 9, 2000
	ITU-R BT.709.4; Parameter values for HDTV standards for production and international programme exchange;

- 0 – 0 – 0 – 0 – 0 -

©2009 Philips Electronics Nederland B.V.